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ABSTRACT

The largest single federal elementary and secondary education grant program to local school districts is title I of the Elementary and Secondary Education Act (ESEA) of 1965. Title I educational services may be financed by four funding formulas, which cover basic grants, concentration grants, targeted grants, and Education Finance Incentive Program grants. Title I's Education Finance Incentive Program would provide additional funds to states with high levels of "fiscal effort" for education (that is, high state spending relative to the state's ability to pay) and equity in per pupil spending. This General Accounting Office (GAO) report analyzes proposed measures of effort and provides options for improving them. Methodology included a literature review, consultation with experts, and analysis of school-district data from the Department of Education's National Center for Education Statistics (NCES) for school year 1991-92. It is recommended that the effort factor include an indicator of states' ability to pay that is comprehensive, reflecting all sources of potential revenue-raising capacity; avoid using indicators that are not directly related to state fiscal effort; and provide a direct incentive for increased effort. To assess the equity factor, the report recommends the following criteria: (1) the measure of spending disparities should be comprehensive; (2) the measure of students' needs should be as comprehensive as possible; (3) spending differences should be adjusted for differences in purchasing power across school districts; and (4) the equity factor should provide an incentive for states to further reduce spending disparities. Appendices contain background information, a description of methodology, formulas for measuring effort and equity, examples of alternative allocations, and implications for impact aid. Contains seven tables and three figures. (LMI)

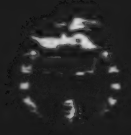
GAO

Report to Congressional Requesters

August 1996

SCHOOL FINANCE

Options for Improving Measures of Effort and Equity in Title I



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United States
General Accounting Office
Washington, D.C. 20548

Health, Education, and
Human Services Division

B-274117

August 30, 1996

The Honorable Jeff Bingaman
The Honorable Christopher Dodd
The Honorable Carol Moseley-Braun
The Honorable Paul Simon
United States Senate

Disparities in per pupil funding for elementary and secondary education within each state have long been a concern of parents, teachers, state officials, the courts, and federal officials. Since the early 1970s, these disparities have led poor districts in more than 40 states to challenge the constitutionality of their states' school finance systems. More than half of the state systems have been challenged since 1989.[1]

Since the 1960s, federal education funds have been allocated to areas with high levels of need for additional educational services, such as compensatory education or bilingual education. During the 1980s this need increased as the nation's school-age population became increasingly poor, racially and ethnically diverse, and at risk of school failure.[2] Successfully educating at-risk populations depends, in part, upon adequate and equitable funding. Schools have been addressing the needs of at-risk children through a variety of compensatory and education reform efforts, some of which use federal education funds.

The largest single federal elementary and secondary education grant program to local school districts—$6.7 billion in fiscal year 1996[3]—is title I of the Elementary and Secondary Education Act (ESEA) of 1965.[4] The purpose of title I is to improve the educational opportunities of educationally deprived children by helping them succeed in regular programs, attain grade-level proficiency, and improve achievement in basic and more advanced skills. As reauthorized by P.L. 103-382 in October 1994, these title I educational services may be financed by four funding formulas for this common purpose. The four formulas cover basic

[1]School Finance: Three States' Experiences With Equity in School Funding (GAO/HEHS-96-39, Dec. 19, 1995).

[2]School-Age Children: Poverty and Diversity Challenge Schools Nationwide (GAO/HEHS-94-132, Apr. 29, 1994).

[3]Under P.L. 104-134, however, about $1.3 billion of this $6.7 billion will not be available for fiscal year 1996 awards (school year 1996-97) until Oct. 1, 1996.

[4]We use the term title I to refer to title I, part A, Improving Basic Programs Operated by Local Educational Agencies, of ESEA, as added by the Improving America's Schools Act of 1994, P.L. 103-382.

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grants, concentration grants, targeted grants, and Education Finance Incentive Program grants.[5] The 1994 legislation, for the first time, authorized funding for the Education Finance Incentive Program beginning in fiscal year 1996, although no funding was specified in fiscal year 1996 appropriations for that program or for targeted grants. (See app. I for a description of these grant programs.)

Many complex policy and technical issues surround policymakers' decisions about whether to provide title I funding through the Education Finance Incentive Program formula in future years. The Clinton administration proposed not funding this program for fiscal year 1997 because "the formula would reward states that make a high effort and are highly equalized, but it would not consistently target funds on states with high concentrations of poor children."[6] Those who support the Education Finance Incentive Program suggest that if a state's spending for education increases and spending disparities among a state's districts decrease, the federal government is able to more effectively allocate title I funds to provide truly supplemental educational resources to disadvantaged children.[7]

Title I's Education Finance Incentive Program would provide additional funds to states with high levels of "fiscal effort" for education (that is, high state spending relative to the state's ability to pay) and equity in per pupil spending.[8] In our June 1994 correspondence,[9] we identified potential weaknesses in the proposed measures of effort and equity used in the title I program. In addition, Members of Congress have also called for improvements in these measures. Consequently, you asked us to provide a more in-depth analysis of these measures and provide options for improving them. Specifically, this report

[5]The basic grant formula allocates grants on the basis of the number of poor children, while concentration grants are allocated to areas with concentrations of poor children—those with a poverty rate over 15 percent or more than 6,500 poor children. Targeted grants further focus grants on the highest poverty areas by allocating the greatest per pupil funding to areas with the highest poverty rates or number of children in poverty.

[6]See Department of Education, Justifications of Appropriation Estimates to the Congress: Fiscal Year 1997, Vol. I, p. B-20.

[7]For a discussion of related title I (formerly known as chapter 1) issues, see Commission on Chapter 1, Making Schools Work for Children in Poverty: A New Framework Prepared by the Commission on Chapter 1 (Washington, D.C.: Dec. 1992).

[8]An individual state, however, may be relatively high on one measure and relatively low on the other. For example, Tennessee has achieved a high level of equity in per pupil funding but exerts a low level of fiscal effort for education.

[9]Title I Formula in S. 1513 (GAO/HEHS-94-190R, June 7, 1994).

- examines the measures now included in title I's Education Finance Incentive Program to reflect state fiscal effort for education and equity in per pupil spending,
- proposes several options for improving these measures,
- describes the characteristics of states with higher levels of effort and equity under both the current definitions and the options we developed, and
- proposes alternative ways the options we developed could be used in allocating funds under the Education Finance Incentive Program.

For our evaluation of the effort and equity factors, we reviewed the relevant school finance literature and consulted with school finance experts. On the basis of this review, we developed the following criteria to assess the quality of the effort factor. The effort factor should (1) include an indicator of states' ability to pay that is comprehensive, reflecting all sources of potential revenue-raising capacity states may use to fund education; (2) avoid using indicators that are not directly related to state fiscal effort; and (3) provide a direct incentive for increased effort.

To assess the quality of the equity factor, we adopted the following criteria: (1) the measure of spending disparities should be comprehensive, (2) the measure of students' needs should be as comprehensive as possible, (3) spending differences should be adjusted for differences in purchasing power across school districts, and (4) the equity factor should provide an incentive for states to further reduce spending disparities.

We consulted with experts to review the measures and options we formulated.[10] See appendix II for a full discussion of scope and methodology. We conducted our review from May 1995 through June 1996 in accordance with generally accepted government auditing standards.

Results in Brief

The measures of both effort and equity that are used in the Education Finance Incentive Program could be improved. Improved measures would more efficiently reward states that increase their level of fiscal effort in raising education revenue or successfully diminish spending disparities among districts.

[10]The following experts were involved in initial discussions or reviewed drafts of this report: Michael Compson (Department of the Treasury), William Fowler (Department of Education's National Center for Education Statistics [NCES]), Frank Johnson (NCES), Martin Orland (NCES), Lawrence Picus (University of Southern California), Wayne Riddle (Congressional Research Service), William Sonnenberg (NCES), Stephanie Stullich (Department of Education), and Deborah Verstegen (University of Virginia).

Under title I, the effort factor measures each state's spending per pupil relative to its ability to pay, relative to this ratio for the nation as a whole. A strength of this factor is that it considers a state's ability to pay when assessing its effort in raising revenue for education. We found, however, that the measures included in the effort factor could be improved. We developed three alternative ways to measure effort that are more comprehensive and do not penalize states with high proportions of school-age children. Two of these alternatives also reward states for improving their level of effort over time. One of these two provides a further incentive for low-effort states to increase their effort.

Similarly, the equity factor could also be improved. The current definition of equity has two components: a measure of spending disparities and a measure of student needs. The measure of spending disparities among a state's districts takes into account spending in every district in the state and rewards states for being equitable. The measure of student needs, however, does not adjust for all major differences in student needs across school districts. For example, it adjusts for the extra costs associated with educating poor students but does not adjust for the extra costs associated with students who have disabilities or limited English proficiency. In addition, the current measure does not adjust for differences in purchasing power among a state's districts (for example, differences in the costs of services, such as teacher salaries, that affect how much a state's dollars can buy). Furthermore, the equity definition could more effectively reward states for improving their level of equity over time. We developed five alternative ways to address equity that are based on two different measures of spending disparities. These alternatives take into account differences in student needs and purchasing power. Three of these alternatives also more effectively reward states for improving their level of equity over time.

Current definitions of effort and equity are more strongly related to certain demographic characteristics than are the alternatives we developed. For example, the options we developed do not penalize states with high levels of child poverty the way the current effort factor does.

The current formula for title I's Education Finance Incentive Program allocates funds to states using, in addition to the effort and equity factors, the state's total number of school-age children, rather than children in poverty—those who are the focus of all other title I allocation formulas. Consequently, some states could benefit from the Education Finance Incentive Program even though they do not have high levels of poverty. We

constructed four alternative allocation formulas using the alternative effort and equity factors we developed. Two of the four alternatives we present are based on numbers of poor children, rather than all school-age children.

Background

Total expenditures in all U.S. elementary and secondary schools in school year 1993-94 reached an estimated $285 billion. Education is the largest single expenditure category in state budgets, accounting for about 20 percent of total state spending in fiscal year 1994. Elementary and secondary schools receive most of their funds from state and local revenues. Federal aid has mainly focused on providing services to educationally disadvantaged children through categorical, program-specific grants. In school year 1992-93, state and local shares of total education spending were roughly equal, estimated at 45.6 percent ($113 billion) for states and 47.4 percent ($118 billion) for local educational agencies (LEA). The federal share was 6.9 percent ($17 billion).[11]

Although most of the activities promoting equity in education take place within states, the federal role in supporting equity has been discussed since the 1960s, when concern was voiced over states' inappropriate use of federal funds intended to improve equity on behalf of disadvantaged children. In summer 1993 the Senate held hearings on the federal role in school finance equalization.[12] Subsequently, the Congress amended ESEA to further help disadvantaged children by improving the targeting of title I funds to local education agencies and schools with relatively high levels of poor students.

Title I is a federal program that provides remedial education services to low-achieving students in high-poverty elementary and secondary schools. Title I funds are intended to supplement, not supplant, local and state education funding. Until ESEA was amended by the Improving America's Schools Act (IASA) of 1994, title I grants to local education agencies were distributed under two formulas—the basic grant formula and the concentration grant formula. In an effort to increase the amount of aid going to the neediest children, between 1988 and 1994 the statute required that 10 percent of the appropriations to LEAs were to be distributed using the concentration grant formula. That formula generally allocated funds

[11]School Finance: Trends in U.S. Education Spending (GAO/HEHS-96-235, Sept. 15, 1995).

[12]See, for example, William L. Taylor, Testimony Before the Subcommittee on Education, Arts and the Humanities, Senate Committee on Labor and Human Resources, Aug. 3, 1993.

only to those LEAs in counties where eligible children[13] equaled either at least 6,500 or 15 percent of the total population aged 5 through 17. The rest of the appropriation was distributed under the basic grant formula (which is based on numbers of poor school-age children multiplied by a cost factor reflecting a state's per pupil spending).

In 1994, the Congress sought to provide greater targeting of title I aid although opinions varied as to the best way of doing it. In the end, IASA made some technical changes to the basic and concentration grants and added two more title I funding streams—targeted grants and the Education Finance Incentive Program. The targeted grant formula may use money appropriated for title I in excess of the fiscal year 1995 level. Targeted grants are similar to basic grants except that poor and other children counted in the targeted formula are assigned weights based on the county's or LEA's child poverty rate and the number of poor school-age children. This formula generally reflects the recommendations for using weighted pupil formulas in title I made by the Commission on Chapter 1, the RAND Corporation, and GAO.[14] Under the targeted grant formula, the higher the poverty rate or number of poor children in the county or LEA, the higher the title I grants per formula child.[15]

The 1994 reauthorization of title I included an effort and equity bonus—additional dollars—through a new Education Finance Incentive Program to encourage states to have more equitable education finance systems. Although part of title I, this program is funded separately. The 1994 reauthorization authorized $200 million for the Education Finance Incentive Program for fiscal year 1996.[16] As of July 1996, however, no funding has been appropriated. (See app. I for more background information related to title I and appropriation issues.)

[13]Known as "formula children," these were children aged 5 through 17 (1) in poor families, according to the latest decennial census and applying the Bureau of the Census's standard poverty income thresholds; (2) in families above the poverty income level for a family of four but receiving Aid to Families With Dependent Children (AFDC) payments; and (3) in certain institutions for neglected or delinquent children. Poor children constitute approximately 96 percent of the formula children.

[14]Commission on Chapter 1, Making Schools Work for Children in Poverty; Iris C. Rotberg and James J. Harvey, Federal Policy Options for Improving the Education of Low-Income Students (Santa Monica, Calif.: The RAND Corporation, 1993); Remedial Education: Modifying Chapter 1 Formula Would Target More Funds to Those Most in Need (GAO/HRD-92-16, July 28, 1992). For a discussion of these weights, see Wayne C. Riddle, Education for the Disadvantaged: Analysis of 1994 ESEA Title I Amendments Under P.L. 103-382, Report for Congress No. 94-658 EPW (Washington, D.C.: Congressional Research Service, Nov. 18, 1994).

[15]Riddle, Education for the Disadvantaged.

[16]For fiscal years 1997 through 1999, no specific authorization limits have been set.

The Education Finance Incentive Program defines effort as the ratio of state spending for elementary and secondary education per pupil to the per capita income of state residents. The effort factor, however, can be no less than 95 percent and no more than 105 percent of the national average. Per capita income is used as a proxy for a state's ability to pay for education spending. Thus, the effort factor measures each state's actual spending as a percentage of its ability to spend.

The equity factor measures the variation in per pupil spending across a state's districts divided by the state's average per pupil spending. Additional weight is given to the number of poor pupils to reflect the higher cost of educating these children. The equity factor is subtracted from 1.3 for use in the allocation formula.

Improving Effort Measures

One of the strengths of the effort factor used in the Education Finance Incentive Program is that it considers a state's ability to pay when determining the level of effort. However, the current effort factor could be improved for three reasons. First, its measure of ability to pay—per capita personal income—is not as comprehensive as another that is available: total taxable resources (TTR). Second, because its measure of spending, which is per student, is related to a measure of ability to pay which is per capita, the factor penalizes states with high proportions of school-age children. Third, the effort factor does not adequately reward states for improving their level of effort over time.

The effort factor's measure of ability to pay is not as comprehensive as it could be because per capita income excludes many taxable resources that states are able to use for financing education. To the extent these additional sources of funding capacity are not equally available in all states, the per capita income measure overstates the funding capacity of some states and understates it for others.

The current effort factor also penalizes states with high percentages of school-age children in their populations. It measures the ratio of state spending, expressed on a per pupil basis, and state funding capacity, expressed on a per capita basis. This calculation introduces the percentage of the state's school-age population into the measure of state effort. The effect is to inappropriately penalize states with a high

percentage of school-age children because the percentage of a state's population that is school-age is unrelated to its level of effort.[17]

Moreover, the current effort factor could more effectively encourage states to increase their level of effort over time by (1) including a bonus based on rate of increase or decrease in effort over time and (2) eliminating the current requirement that the effort factor be at least 95 percent and no more than 105 percent of the average effort of all states. A fiscal incentive, or bonus, would reward states for increasing their level of educational effort over time, rather than rewarding only those that already have high effort. The 95-percent floor undermines the incentive for low-effort states to increase their effort in funding elementary and secondary education. Under current law, states with very low effort may increase their level of effort considerably, yet receive no additional dollars.

Two of the three alternative effort factors we developed include a bonus based on the rate of increase or decrease in effort over time, in addition to other modifications we have made to address the potential drawbacks of the current effort factor (see app. III). One of these two alternatives also eliminates the requirement that the effort factor be at least 95 percent and no more than 105 percent of the average effort of all states.

Table 1 compares the characteristics that define the current measure of effort in title I with the measures we propose as options A, B, and C. Option B is more comprehensive than option A because it considers both the current level of effort and the change in effort for each state over time. Option C is the same as option B, except that the effort factor is not constrained by the current requirement to be between 95 and 105 percent of the average effort. For a state-by-state breakout on each of these options, see appendix III.

[17]Researchers have noted that states with a large percentage of their population that is school-age may have a more difficult time raising needed resources for education than those with a smaller percentage that is school-age. "All else being equal, states who are able to spread their educational costs across a larger population base (i.e., those with higher population to pupil ratios), can more easily generate a given level of per pupil spending than can states with greater numbers of students relative to their population," according to Martin Orland and Carol Cohen, Meeting the Challenge of Devolution: How Changing Demographic and Fiscal Contexts Affect State Investments in Education (Washington, D.C.: The Finance Project, Feb. 1996), p. 2.

Table 1: Comparison of Current Title I Effort Definitions With Alternative Definitions

Characteristic	Definitions			
	Title I	Option A	Option B	Option C
Includes a comprehensive measure of states' ability to pay		X	X	X
Is not biased against states with a high proportion of school-age children		X	X	X
Provides a direct incentive for improvement in effort over time			X	X
Provides an incentive for low-effort states to increase their effort (no minimum)				X

Improving Equity Measures

The equity definition in title I's Education Finance Incentive Program contains two components. Of the two, the measure of spending disparities is more comprehensive than the measure of student needs. The measure of spending disparities[18] is a good overall measure because it takes into account per pupil spending in all of each state's school districts. The measure of student needs, however, only explicitly takes into account the greater needs of one type of pupil—those who are poor—in determining per pupil expenditures. Although the definition allows other types of higher needs students to be considered, such as students with disabilities or limited English proficiency, they are not explicity included.

Table 2 compares the current equity measure and the five options we developed on the following characteristics: (1) the comprehensiveness of the measures of variation in education spending levels among districts in the state, that is, whether they include all districts and consider low-spending districts; (2) the ability of measures of student needs to take into account the cost differences of educating different target populations (students who are poor, have limited English proficiency, or have disabilities); (3) the inclusion of a comprehensive measure of purchasing power; (4) the inclusion of a direct incentive for states to improve their levels of equity over time; and (5) the presence of minimum and maximum limits.

[18]The coefficient of variation (COV) is the standard deviation (a common statistical measure of variation) of state and local per pupil spending for primary and secondary education within the state, divided by the average level of per pupil spending in the state.

Of the five options we provide, E, G, and H are the more comprehensive. Each considers both the current level of equity a state has achieved and the recent progress the state has made toward achieving equity in education spending. To the extent possible within the limitations of the data currently available, we took into account differences in student needs related to numbers of students who were poor, had limited English proficiency, or had disabilities.[19] Whether policymakers prefer option E or option G depends on their interest in measuring variation in spending levels for all school districts in the state (option E), or focusing on a state's ability to bring low-spending school districts up to the median (option G). Option H is the same as option E, except that it does not contain the limits each of the other equity options we developed does.[20] (For more information on each of these options, see app. IV.)

[19]In five states data were not available on the number of pupils with disabilities; however, it is expected that data will be provided for all but two states when data become available for 1993-94 from the Common Core of Data collected by NCES. Moreover, the number of pupils with limited English proficiency is based on the decennial census and may underestimate the current number.

[20]For the other equity options, we used limits of at least 0.95 and no more than 1.30.

Table 2: Comparison of Title I Equity Definition With Alternative Definitions

	Definitions					
Characteristic	**Title I**	**Option D**	**Option E**	**Option F**	**Option G**	**Option H**
Considers spending levels for all districts in the state	X	X	X			X
Considers extent to which district spending levels fall below the median				X	X	
Considers differences in student needs						
Poor	X	X	X	X	X	X
Limited English proficiency		X	X	X	X	X
Disabilities		X	X	X	X	X
Includes a comprehensive measure of differences in purchasing power		X	X	X	X	X
Provides a direct incentive for improvement in equity			X		X	X
Includes limits (minimum and maximum)		X	X	X	X	

Characteristics of States With Higher Levels of Effort and Equity

We examined the demographic characteristics of states with higher levels of effort and equity under the current title I definition and under the new definitions we developed. We looked at the relationship between these effort and equity factors and (1) state median household income, (2) variations in median household income among districts, (3) state percentage of school-age children in poverty, and (4) variations in percentage of school-age children in poverty among districts.

Under the current effort factor, we found that states with higher levels of child poverty rates do significantly less well than those states with lower levels of child poverty. There was no significant relationship between a state's rate of child poverty and the options we developed; thus, the options we developed do not penalize high-poverty states the way the current effort factor does. For further discussion of these analyses, see appendix III.

When we examined the correlation between the various equity factors and variability in median household income among districts, we found that the lower the variability in median household income across districts in the state, the higher the equity factor, and vice versa. The strength of the association was strongest, however, for the current equity factor and weakest for the three measures that considered improvement in equity over time—options E, G, and H (see app. IV, table IV.2).

Improving the Education Finance Incentive Program Formula

The current formula for title I's Education Finance Incentive Program allocates funds to a state based on the effort factor and the equity factor multiplied by the state's total number of school-age children, rather than the number of children in poverty—those who are the focus of all other title I allocation formulas. Consequently, some states could benefit from the Education Finance Incentive Program even though they do not have high levels of poverty.

The alternative allocation formulas we developed not only use the alternative effort and equity factors we developed, but also propose using the number of children in poverty. Two of the four alternatives we present are based on the number of poor school-age children, rather than all school-age children. (For illustrative alternative allocation formulas using the effort and equity measures we developed, see app. V.[21]) Eight of the 10 poorest states would receive greater funding using the two alternative formulas we propose that are based on children in poverty than they would under the most targeted of title I formulas, the targeted grant formula.

Conclusions

The definitions of effort and equity in title I's Education Finance Incentive Program could be improved in a number of ways. The definition of effort used in this program could be improved by (1) using a more comprehensive measure of ability to pay, (2) eliminating the bias against states with high proportions of school-age children, (3) providing a direct incentive for states to improve their level of effort over time, and (4) eliminating the lower limit for the effort factor. The definition of equity used in current law could be improved by (1) more fully considering differences in students' needs among districts, (2) considering differences in purchasing power among a state's districts, and (3) rewarding states for improving their level of equity in education spending, not just for already

[21]These measures also have implications for another federal program, Impact Aid, title VIII of IASA, the purpose of which is to help pay the operating costs of LEAs that are affected by federal activities. (See app. VI.)

being equitable. The formula for allocating funds under this program would better target funds to states with higher proportions of children in poverty if it were based on the numbers of poor children rather than all school-age children.

Matters for Congressional Consideration

Should the Congress decide to fund title I's Education Finance Incentive Program, it may want to improve the effort and equity measures and the way they are used in the allocation formula by considering the options we have presented in this report. Specifically, we believe that the Congress may wish to consider

- reducing the floor on the effort factor so that low-effort states are rewarded for increased effort;
- modifying the effort factor to eliminate the penalty on states where a high percentage of the population is school-age;
- using, in the effort factor, a more comprehensive measure of states' revenue raising capacity, such as the total taxable resources indicator published by the Secretary of the Treasury;
- including in the effort and equity factors a bonus for improvement over time;
- expanding the needs component of the equity factor to include children with limited English proficiency and children with disabilities;
- adjusting the equity factor for differences in the cost of educational services across each state's districts; and
- basing the allocation formula on the number of poor school-age children rather than all school-age children.

Agency Comments and Our Evaluation

The Department of Education provided written comments on a draft of this report (see app. VII). The Department expressed concern about our analysis of the impact of the Education Finance Incentive Program on the targeting of title I funds and whether the incentive formula can be expected to provide a meaningful incentive for states to change their school funding systems.

The Department of Education was concerned that the Education Finance Incentive Program, even with the refinements we proposed, would tend to redistribute title I funds away from many higher poverty states and school districts. They stated that the Education Finance Incentive Program formula has a devastating impact on targeting because of a combination of factors, including (1) states with low fiscal effort tend to be high-poverty

states with fewer resources, (2) the equity factor draws funds away from some high-poverty states while benefiting some low-poverty states, and (3) the incentive formula allocates funds based on the total number of school-age children rather than numbers of poor children.

Regarding the Department's first point (that states with low fiscal effort tend to be high-poverty states), we found that although this was true using the current effort measure, it is not true using the measures of effort we developed. Our analysis shows that while there is a significant negative correlation between the current effort measure and a state's poverty level (that is, poorer states would get fewer dollars), this is not the case with each of the three effort options we developed.

Contrary to the Department's second point (that the equity factor draws funds away from some high-poverty states while benefiting some low-poverty states), as our report points out, we found no correlation between a state's score on the current equity measure and a state's poverty level. We did find, however, that states with high levels of variation in income levels and poverty rates across their districts did less well using the current equity measure than states with lower levels of variation; our equity measure options ameliorated this problem somewhat.

With regard to the third point (that the incentive formula allocates funds based on the total number of school-age children rather than on the number of poor children as in the other title I formulas), we agree that this is true with the current formula. In our draft report, however, one of the three allocation alternatives we identified uses numbers of poor, rather than all, school-age children as a basis for allocating funds under the Education Finance Incentive Program. We have also added a fourth allocation alternative that uses numbers of poor children. Both of those allocation alternatives would target more dollars for poor states such as Alabama, Arkansas, Kentucky, Mississippi, New Mexico, South Carolina, Tennessee, and West Virginia—8 of the 10 poorest states—than would the targeted grant formula.

The Department also stated that the report sidesteps the issue of whether the Education Finance Incentive Grant formula can be expected to provide a meaningful incentive for states to change their school funding systems. Although this issue was not the focus of our study, we state in our report that some experts question whether the level of funding that may or may not be appropriated for the Education Finance Incentive Program would be of sufficient size to have any effect on the plans of state

or local educational agencies to provide greater levels of effort or equity (see app. I).

We concur with the Department's comment that the provisions restricting a state's effort factor to between 95 and 105 percent of the national average result in weakening the incentive for states to increase their level of effort. In response to the Department's comment, we developed another option for the effort measure that does not include these minimum and maximum constraints, and included this in our analysis. This fourth alternative allocation formula based on the number of poor school-age children also includes this unconstrained effort option as well as an unconstrained equity option. This allocation alternative, as previously noted, would result in targeting more dollars to 8 of the 10 highest poverty states than would the targeted grant formula.

We are sending copies of this report to the Secretary of Education, appropriate congressional committees, and other interested parties. If you wish to discuss the contents of this report, please call me on (202) 512-7014 or Eleanor Johnson, Assistant Director, on (202) 512-7209. Major contributors to this report are listed in appendix VIII.

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Abbreviations

AFDC	Aid to Families With Dependent Children
COV	coefficient of variation
ESEA	Elementary and Secondary Education Act
IASA	Improving America's Schools Act
LEA	local educational agency
NCES	National Center for Education Statistics
TTR	total taxable resources

Background

Under title I, federal funds are authorized to school districts to provide supplementary educational services for low achievers in areas with children in poverty. As reauthorized by P.L. 103-382 in October 1994, these title I educational services may be financed by four funding formulas for this common purpose. The four funding formulas are for basic grants, concentration grants, targeted grants, and Education Finance Incentive Program grants. In fiscal year 1996, approximately $6.7 billion was appropriated for two of these funding formulas: basic grants and concentration grants.[22] No funds have been appropriated for either targeted grants or the Education Finance Incentive Program for fiscal year 1996.

Basic grants are generally allocated based on numbers of poor school-age children multiplied by a "cost factor"—a measure based on a state's average per pupil spending.[23] Concentration grants are based on numbers of school-age children in areas with high concentrations of poverty—where over 6,500 or 15 percent of the children are poor—and a measure of per pupil spending. Targeted grants provide an even greater focus on allocating funds to the highest poverty areas because they target the greatest per pupil funding to the areas with the highest poverty rates or numbers of children in poverty.

Appropriation Issues Related to Title I's Education Finance Incentive Program

Many complex policy and technical issues surround congressional policymakers' decisions about whether to provide some title I funding through the Education Finance Incentive Program formula. It remains unclear whether additional title I funds will be appropriated in the near future and, if so, whether they will be made available for the two title I formulas created in the 1994 reauthorization: targeted grants and Education Finance Incentive Program grants.[24] Funds appropriated in excess of the fiscal year 1995 title I appropriation may be spent for targeted grants. However, in part because the excess amounted to only 0.5 percent of the basic and concentration grant appropriations for fiscal year

[22]However, under P.L. 104-134, about $1.3 billion of these basic and concentration grant funds will not be available for fiscal year 1996 awards (school year 1996-97) until Oct. 1, 1996.

[23]In a previous review of the title I formula, we noted that the current cost factor needs improvement as it rewards states for spending more on education without considering differences across states in their ability to spend on education. See Remedial Education: Modifying Chapter 1 Formula Would Target More Funds to Those Most in Need (GAO/HRD-92-16, July 28, 1992).

[24]For more information on the title I basic, concentration, and targeted grant formulas, see Wayne Riddle, Education for the Disadvantaged: Analysis of 1994 ESEA Title I Amendments Under P.L. 103-382, Report for Congress No. 94-968 EPW (Washington, D.C.: Congressional Research Service, Nov. 18, 1994).

1996, no funds were spent for targeted grants for fiscal year 1996.[25] In addition, no funds were earmarked for the Education Finance Incentive Program, although $200 million was authorized for fiscal year 1996. If funding for title I increases in future years, it remains unclear whether the Congress will appropriate funds for targeted grants or the Education Finance Incentive Program.

For fiscal year 1997, the Clinton administration has proposed funding targeted grants at $1 billion, while decreasing funds for basic grants by about $500 million. The proposal is intended to enhance the ability of the poorest communities to provide supplementary instructional services to disadvantaged students. The administration proposes not to fund the Education Finance Incentive Program for fiscal year 1997 because "the formula would reward states that make a high effort and are highly equalized, but it would not consistently target funds on states with high concentrations of poor children."[26] In addition, some experts question whether the level of funding that may or may not be appropriated for the Education Finance Incentive Program would be of sufficient size to have any effect on the plans of state or local educational agencies to provide greater levels of effort or equity.

Those who support funding the Education Finance Incentive Program may note that title I funds are seen as supplementing a basic level of state and local funding for instructional services to compensate for the additional educational needs that accompany concentrations of poverty.[27] If, however, there are spending disparities among a state's school districts, title I funding "may only help make up some of the gap in resources available to disadvantaged children compared to those received by the advantaged."[28] To the extent that a state's spending for education increases and spending disparities among a state's districts decrease, the federal government is able to more effectively target funds to provide truly supplemental educational resources to disadvantaged children.

[25]See Wayne Riddle, Title I, ESEA: Current Status and Issues, Report for Congress No. 96-380 EPW (Washington, D.C.: Congressional Research Service, Apr. 26, 1996).

[26]See Department of Education, Justifications of Appropriation Estimates to the Congress: Fiscal Year 1997, Vol. I, p. B-20.

[27]For a discussion of related title I (formerly known as chapter 1) issues, see Commission on Chapter 1, Making Schools Work for Children in Poverty: A New Framework Prepared by the Commission on Chapter 1 (Washington, D.C.: Dec. 1992).

[28]See Riddle, Education for the Disadvantaged, p. 17.

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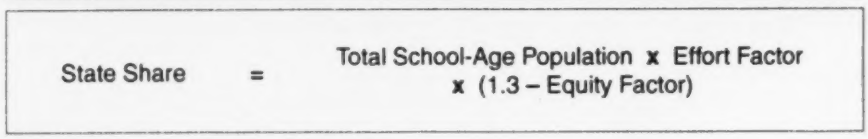
If funds are appropriated for the Education Finance Incentive Program in the future, under current law each state's share would be determined by the formula in figure I.1.

Figure I.1: Formula for Determining State Share



Notes: This formula differs from other title I, part A, formulas in two ways: (1) it uses school-age population, not poor school-age population, as a basis for allocation; and (2) it does not include an expenditure factor, as other formulas do, that rewards high-spending states. For more information, see Riddle, Education for the Disadvantaged.

Throughout the rest of this report, we will use the term "equity factor" to refer to the "1.3 minus the equity factor."

Funds would then be allocated to districts within each state based on their share of the total of other title I funds for school districts: basic grants, concentration grants, and targeted grants. Each state is to be allotted at least 0.25 percent of the total appropriation. The effort and equity factors in the Education Finance Incentive Program are intended to provide additional dollars to those states that have relatively high fiscal effort (in order to provide adequate levels of funding for education) and those states with relatively low disparities in per pupil funding across districts.

Definition of Effort in Title I's Education Finance Incentive Program

The Education Finance Incentive Program defines effort using two components: state spending for education and state ability to pay (see app. III). The measure for state spending for education is the state's average per pupil expenditure for public elementary and secondary education. The measure of the state's ability to pay for services is the state's average per capita income.[29] Those states with high effort, that is, high state spending relative to their ability to pay, are rewarded for this under the Education Finance Incentive Program.

A state's level of effort is compared with that for the nation as a whole to develop an "effort factor" to be used in the Education Finance Incentive

[29]Under current law, averages used to calculate the effort factor are determined using 3 years of data to minimize the effect of changes from year to year.

Program formula. If the index is 1.00, the state's level of spending for education, relative to its per capita income, is the same as it is for the nation as a whole. Those states with spending for education relative to their ability to pay that is greater than that for the nation receive a factor higher than 1.00; those with spending relative to ability to pay that is lower than that for the nation receive a factor lower than 1.00. No state, however, may have an effort factor higher than 1.05 or lower than 0.95. Limiting the range from 0.95 to 1.05 limits the degree to which states receive a smaller share because of their much lower effort or a larger share because of their much higher level of effort.

Definition of Equity in Title I's Education Finance Incentive Program

The definition of equity used in title I's Education Finance Incentive Program includes two components: a measure of spending disparities and a measure of student needs. The law also contains a number of other adjustments that take into account complexities arising from various types of school districts (for example, elementary, secondary, and unified), extremely small school districts, and other factors (see app. IV).

The first component measures the level of disparity in current per pupil expenditures across the state's school districts. There are a variety of ways to measure spending disparities; title I uses the coefficient of variation (COV). The COV is the standard deviation (a common statistical measure of variation) in spending per student among all districts within the state, divided by the average level of spending per student in the state.

The second component is a partial accounting, through use of a weighting factor, for differences in student needs across districts within the state; it specifically focuses on differences in the number of poor students. Students with no need for additional services are weighted by a factor of 1.0; poor students are weighted by a factor of 1.4.[30] Such a weighting system recognizes that it may not be best to have equal spending per pupil across districts if the needs of the children in those districts are not equal. For example, additional local, state, and federal dollars might be targeted to districts with high concentrations of poor children to provide services to compensate for their greater educational needs.

[30]In addition, the law allows the Secretary of Education to take into account the needs of other types of pupils, such as pupils with limited English proficiency or disabilities. While data were not available on numbers of children with disabilities for eight states at the time the law was passed, data will soon be available for all but two states. The law also allows the Secretary to consider differences in purchasing power across the states' districts when determining the level of equity. Indexes on differences in purchasing power across the states' districts were not available at the time the law was enacted but have been developed recently.

The equity factor is then constructed by subtracting the measure of spending disparities—the COV adjusted by a weighting component for poor students—from 1.3.[31] For most states, the equity factor ranges from 1.2 to 1.0. One state, Hawaii, has only one school district and, therefore, no variation in spending, so it receives an equity factor of 1.3. For similar reasons, Washington, D.C., and Puerto Rico also receive an equity factor of 1.3.[32] Current law also includes a provision that those states that meet the disparity standard under Impact Aid[33]—Alaska, Kansas, and New Mexico—receive an equity factor of 1.2.

[31]The law also allows the Secretary to incorporate other valid and accepted methods to measure equity not reflected in the COV method.

[32]One expert suggested that Hawaii, Washington, D.C., and Puerto Rico receive an undeserved advantage because of this situation and that they should receive an average score on the equity factor, rather than the highest score.

[33]See app. VI for a discussion of the Impact Aid program.

Appendix II

Scope and Methodology

We reviewed the formula used in title I's Education Finance Incentive Program, focusing on the components of the formula related to effort and equity, which the Congress refers to as effort and equity factors. Our study was designed to answer the following questions: (1) How can the current effort factor be improved? (2) How can the current equity factor be improved? (3) How are state demographic characteristics, such as poverty rate or median income, related to state scores on the effort and equity factors? (4) How can the options we developed be used in alternative ways to allocate funds under the Education Finance Incentive Program?

To answer these questions, we analyzed the strengths and weaknesses of title I's effort and equity factors using criteria we developed after reviewing the literature and consulting with experts. On the basis of our review of the literature and consultation with experts, we developed alternative effort factors for possible use in the Education Finance Incentive Program using a universe sample of school district data from the Department of Education's National Center for Education Statistics (NCES) for school year 1991-92. School district spending data were collected by the Bureau of the Census for NCES. We also developed alternative equity factors that include two different measures of spending disparities and consider differences in purchasing power across a state's school districts. See appendixes III and IV for a description of the methods used to produce the alternatives for the effort and equity factors for title I's Education Finance Incentive Program.[34] To the extent possible within the limitations of the data currently available, we took into account differences in student needs related to numbers of students who were poor, had limited English proficiency, or had disabilities.[35] We also developed illustrative state allocations under current and alternative title I Education Finance Incentive Program formulas as well as under the targeted grant formula (see app. V).[36]

[34]See app. VI for a discussion of some of the methodological strengths and weaknesses of the definition of equalization used in Impact Aid.

[35]In five states, data were not available to take into account the number of pupils with disabilities; however, it is expected that data will be provided for all but two states when data become available for school year 1993-94. Moreover, the number of pupils with limited English proficiency is based on the decennial census and underestimates the current number.

[36]Although existing NCES data are sufficient for the purposes of illustrating the general effects of changes in the effort and equity factors, should the Congress wish to pursue these strategies, NCES may need to address a number of cases of missing data or irregularities in the school district database.

Measuring Effort

The effort factor in the Education Finance Incentive Program provides additional title I aid to those states with education spending relative to their ability to pay that is higher than other states. Current law defines this factor as the state's average per pupil expenditure divided by the state's average per capita income relative to that for the nation as a whole. In the current law, averages are determined using 3 years of data to minimize the effect of changes from year to year. However, no state's effort factor can be less than 95 percent of the nation's average or more than 105 percent. Under P.L. 103-382, funds are to be allocated to states based on the state's number of children aged 5 through 17 multiplied by both the effort factor and the equity factor. Each state is to be allotted at least 0.25 percent of the total appropriation.

Effort Factor in Current Law Could Be Improved

The effort factor in the current law, which considers states' education spending relative to their ability to pay, could be improved. First, the measure of ability to pay used in the law, per capita income, is not as comprehensive as the one we used: total taxable resources (TTR). Second, the current effort factor penalizes states with high proportions of school-age children. Finally, the existing effort factor could more directly reward states for increasing their level of effort, not just for having high effort.

Alternative Title I Effort Factors

We developed three alternative effort factors for title I's Education Finance Incentive Program using TTR as a measure of a state's ability to finance services. TTR, defined and compiled by the Department of the Treasury, considers both personal income and the gross state product for each state. TTR takes into account all income produced within a state, whether received by residents or nonresidents, or retained by business corporations. TTR is a more comprehensive indicator of taxable resources than personal income alone, in part because it also considers income produced in a state but received by nonresidents.

In our alternative effort factors, we consider both spending and ability to pay per student, rather than spending per student and ability to pay per capita, as the current law does. The ability to pay per student is a better measure of a state's ability to finance educational services for students than ability to pay per capita. Moreover, using ability to pay per capita, rather than per student, results in lower Education Finance Incentive grants for states with high proportions of school-age children—those states usually intended to benefit from education-related grants.

In one of the alternatives we developed, option B, we increase the level of the reward to states that increase their level of effort over time. For example, two states may have the same level of effort in the current year. But while one state increased its level of effort from the previous year, the other state decreased its level of effort. In the first of the alternatives we present, option A, these two states would have the same effort factor because they each currently have the same level of effort—as would happen under current law. In the second alternative, option B, the state that increased its level of effort from the previous year would have a higher score than the state that decreased its level of effort. Option C is similar to B but without the limits of 0.95 and 1.05, so that low-effort states would have a greater incentive to increase their effort.

The details of the three alternative effort factors we developed are as follows. The first alternative, which we refer to as option A, is based on state and local funding for elementary and secondary public education (kindergarten through grade 12) divided by the state's TTR.[37] To develop an index, we divided the state figure by a comparable figure for the nation as a whole. This effort index, as is the case for the current law index, is limited to no less than 0.95 and no more than 1.05. Option A is based on data for school year 1992-93.

The second alternative, which we refer to as option B, is an index that also considers the rate of change in effort over time. We determined the rate of change in effort over time by comparing option A with a similar effort factor for the previous school year, 1991-92. For example, if the state's effort factor was 1.01 under option A, and it had improved by 3 percent from the previous year, under option B its effort factor would be 1.01 multiplied by 1.03 (1 plus 0.03), or 1.04. In contrast, if the state's effort factor was 1.01 under option A, but its effort had decreased by 3 percent from the previous year, under option B its effort factor would be 1.01 multiplied by 0.97 (1 minus 0.03) or 0.98. Again, the factors were limited within the bounds of 0.95 and 1.05.

The third option we developed, option C, is similar to option B in that it provides an additional incentive for change over time. In addition, option C eliminates the lower limit of 0.95 and the upper limit of 1.05. We allowed only half of the index to vary, however, because otherwise the gap between the extremes would be too wide. In other words, option C equals 0.5 multiplied by an unconstrained effort factor, plus a constant of 0.5. Under option C, the effort factor would range from a low of 0.72 for the

[37]This is mathematically equivalent to dividing a state's spending per pupil by the state's TTR per pupil.

District of Columbia to a high of 1.21 for West Virginia. Table III.1 compares current and alternative effort factors.

Table III.1: Current and Alternative Effort Factors

State	Current effort factor[a]	Alternative effort factors		
		Option A	Option B	Option C
Alabama	0.95	0.95	0.95	0.90
Alaska	1.05	1.05	1.01	1.11
Arizona	0.95	1.05	1.04	1.02
Arkansas	0.95	1.01	1.01	1.01
California	0.95	0.95	0.95	0.94
Colorado	0.95	0.97	0.98	0.99
Connecticut	1.05	0.99	0.97	0.98
Delaware	1.05	0.95	0.95	0.88
District of Columbia	1.05	0.95	0.95	0.78
Florida	1.00	0.95	0.95	0.94
Georgia	0.95	0.96	1.02	1.01
Hawaii	0.95	0.95	0.96	0.91
Idaho	0.95	1.01	0.97	0.98
Illinois	0.96	0.95	0.95	0.94
Indiana	1.02	1.05	1.05	1.09
Iowa	0.98	1.05	1.05	1.07
Kansas	0.96	1.03	1.03	1.02
Kentucky	0.98	0.99	0.98	0.99
Louisiana	0.98	0.95	0.95	0.94
Maine	1.05	1.05	1.05	1.17
Maryland	1.05	0.97	0.97	0.98
Massachusetts	1.05	0.95	0.95	0.94
Michigan	1.05	1.05	1.05	1.16
Minnesota	1.00	1.05	1.04	1.02
Mississippi	0.95	0.95	0.95	0.92
Missouri	0.95	0.95	0.95	0.95
Montana	1.05	1.05	1.00	1.09
Nebraska	0.95	1.03	1.05	1.04
Nevada	0.95	0.95	0.95	0.89
New Hampshire	0.95	1.00	1.00	1.00
New Jersey	1.05	1.05	1.04	1.09
New Mexico	0.95	1.05	1.03	1.02
New York	1.05	1.05	1.04	1.05
North Carolina	0.95	0.95	0.95	0.90

(continued)

State	Current effort factor[a]	Alternative effort factors		
		Option A	Option B	Option C
North Dakota	0.95	0.96	0.95	0.97
Ohio	1.05	1.05	1.05	1.09
Oklahoma	0.95	1.05	1.05	1.03
Oregon	1.05	1.05	1.05	1.11
Pennsylvania	1.05	1.05	1.04	1.03
Puerto Rico	0.95	0.95[b]	0.95[b]	0.78[b]
Rhode Island	1.05	1.05	1.05	1.05
South Carolina	0.98	1.02	1.01	1.00
South Dakota	0.95	0.95	0.97	0.97
Tennessee	0.95	0.95	0.99	0.86
Texas	0.95	1.04	1.00	1.00
Utah	0.95	1.05	1.05	1.08
Vermont	1.05	1.05	0.98	1.11
Virginia	0.95	0.95	0.95	0.96
Washington	0.95	1.05	1.05	1.04
West Virginia	1.05	1.05	1.05	1.21
Wisconsin	1.05	1.05	1.05	1.11
Wyoming	1.05	1.05	0.96	1.09

[a]Liane White, Education Finance Incentive Grant Under ESEA Title I, Report for Congress 95-963 EPW (Washington, D.C.: Congressional Research Service, Sept. 12, 1995).

[b]Comparable data for our comprehensive measure of states' ability to pay, TTR, developed by the Department of Treasury, were not available for Puerto Rico. Therefore, we gave Puerto Rico the same score under options A, B, and C that it would receive under the definition in the current law—the lowest effort factor calculated for any state.

Correlations Between Current and Alternative Effort Factors and Demographic Characteristics

We examined the correlations between effort and states' demographic characteristics such as state median income, within-state deviations in median household income, state percentage of school-age children in poverty, and within-state deviations in percentage of school-age children in poverty. We examined the extent to which title I's current effort factor and the alternative effort factors we developed were related to these demographic factors.

We found that states with higher levels of child poverty rates do significantly less well with the current effort factor than those states with lower levels of child poverty. However, there was no significant relationship between a state's rate of child poverty and the options we

developed. Thus, the options we developed do not penalize high-poverty states the way the current effort factor does.

When we examined the correlation between the various effort factors and variability in median household income across a state's districts, we found that the variable "within-state deviations in median household income" was positively correlated with the current effort factor.[38] That is, the higher the variability in median household income across districts in the state, the higher the current effort factor, and vice versa. There was no significant correlation, however, between this variable and the options we developed (see table III.2). Moreover, neither the current effort factor nor the options we developed were significantly correlated with state median household income or within state deviations in child poverty levels.

Table III.2: Correlations Between the Effort Factors and State Demographic Characteristics

Characteristic	Current measure	Option A	Option B	Option C
State median household income	–0.06	–0.22	–0.16	–0.21
Within-state deviations in median household income	0.29[a]	0.09	0.08	0.10
Percentage of school-age children in poverty	–0.34[a]	–0.20	–0.15	–0.21
Within-state deviations in percentage of school-age children in poverty	0.03	0.05	0.09	0.04

[a]Significant at the 0.05 level.

[38]Two variables, state median household income and within-state deviations in median household income, were adjusted for differences in purchasing power.

Appendix IV

Measuring Equity

The equity factor of the Education Finance Incentive Program formula provides that additional title I aid go to those states with relatively low disparities in per pupil expenditures among local educational agencies (LEA).[39] The particular statistical measure used to determine the level of spending disparities in each state under current law is the coefficient of variation (COV). The COV is defined as the standard deviation divided by the mean. Assuming a normal distribution, approximately two-thirds of all school districts will fall within one standard deviation of the mean, or average. For example, if the state's average per pupil spending is $6,000 and the standard deviation is $2,000, then approximately two-thirds of districts in the state will be spending between $4,000 and $8,000 per pupil. However, average spending levels vary greatly from state to state. To provide fair comparisons across the states, each state's standard deviation is divided by its average spending level.[40] Using this example, the COV is $2,000 divided by $6,000 or 0.33.

In addition to defining the measure of equity as the COV, the law specifies that the COV should be weighted by the number of poor children in each school district for each state. The Congressional Research Service has pointed out that "the effect of the additional weighting for poor children is that expenditure disparities in favor of LEAs with relatively large numbers of poor children would reduce a State's measured COV, while expenditure disparities in favor of LEAs with relatively low numbers of poor children would increase a State's COV."[41]

To provide a simplified example of how weighting might work, assume a state has two school districts—one with only poor students and another with no poor students. Also assume that the per pupil spending is the same for the two districts, except that 40 percent more funding per poor student is provided to fund additional services. Such a state would appear to have a significant spending disparity. However, a weighted COV takes into account the differences in student needs.

In the current law, the 1.4 weighting per poor student stems, in part, from title I, which authorizes an additional 40 percent in per pupil spending to

[39]To simplify, we have used the term "equity factor" rather than "1.3 minus the equity factor" in this and subsequent appendixes.

[40]This measure also helps to provide comparability over time. For example, if we wanted to examine the level of disparity of many years ago, when spending levels in nominal dollars were half of what they are now, such figures would be comparable. For example, if the state mean had been half of what it is now, $3,000, and, similarly, the standard deviation was $1,000, also half, the COV would be $1,000 divided by $3,000 or 0.33, the same as above.

[41]Riddle, Education for the Disadvantaged, p. 16.

provide services to educationally disadvantaged children in high poverty areas. However, appropriations for title I have generally been less than half of what is authorized. As a result, in a recent study, researchers used 1.2 as a weighting for poor students.[42]

The law also contains a number of other adjustments that take into account complexities arising from various types of LEAs (for example, elementary, secondary, and unified), extremely small LEAs, and other factors. Under current law, separate COVs are used for elementary, secondary, and unified school districts. A statewide COV is then determined by calculating a weighted average based on the number of weighted students (that is, counting poor students as 1.4) for each type of district occurring within the state. Some states have only unified school districts serving students from kindergarten through grade 12; other states have elementary, secondary, and unified school districts. The law excludes spending in extremely small school districts, such as those in remote areas, because spending in these school districts may be atypical.

Methodology for Developing Alternatives

Our work is based on statistical analyses of fiscal and demographic data from the nation's school districts for school years 1991-92 and 1989-90, the latest years for which expenditure data for the universe of school districts were available. In determining alternative equity factors, we also treated the various types of school districts—elementary, secondary, and unified—separately and computed a statewide weighted average. As is the case under current law, we excluded school districts with fewer than 200 students enrolled and districts that reported they had no schools. We also excluded districts with expenditures that were likely to be atypical, such as those devoted primarily to vocational or special education. In examining expenditure equity, we used total current expenditures, which do not include expenditures for debt services or capital outlay.

Data limitations include an underreporting of the number of children who have limited English proficiency and those with disabilities. Although NCES data are sufficient for the purposes of illustrating alternatives to the current effort and equity factors, NCES may want to address a number of cases of missing data or irregularities in the school district database. The data available to us on school district finances and numbers of special needs children by school district were compiled by NCES and the Bureau of the Census. Data on numbers of children with limited English proficiency

[42]For more information, see Thomas B. Parrish, Christine S. Matsumoto, and William J. Fowler, Disparities in Public School District Spending 1989-90, Statistical Analysis Report No. 95-300 (Washington, D.C.: National Center for Education Statistics, Feb. 1995).

came from parents' reports to the Bureau of the Census about whether their children speak English "not well" or "not at all." In addition, five states in school year 1991-92 and eight states in school year 1989-90 did not provide numbers of children with disabilities.[43] In developing an equity factor for these states without data, we were not able to take into account differences among school districts in the number of children with disabilities.

Development of Alternative Definitions of Equity

To improve the current measures of equity used in the Education Finance Incentive Program, we examined (1) the comprehensiveness of the various measures of equity available, (2) the comprehensiveness of the measures accounting for differences in student needs across districts, (3) the effect of including a measure of purchasing power across districts, and (4) the effect of including a direct incentive for states to improve their levels of equity over time.

The Comprehensiveness of Various Equity Measures

We reviewed literature related to measures of school finance equity, most particularly a set of expert papers prepared for the Department of Education in 1992 to evaluate whether the measures of equity used in the Department's Impact Aid program could be improved.[44] Although focused on Impact Aid (see app. VI), these papers informed the discussion related to equity measures used in title I as well.

Some of these experts generally agreed that an equity measure would be better if it took into account a large portion of each state's school districts in determining the disparity in per pupil spending across the state, as the COV does. Robert Berne and Leanna Stiefel also suggested that another measure of spending disparities be used—the McLoone Index.

The COV takes into account per pupil spending in all of each state's school districts and, therefore, is a comprehensive measure of equity. Another measure of equity, the McLoone Index, focuses on equity for school

[43]We use the term children with disabilities to refer to children with an individualized educational plan under the Individuals With Disabilities Education Act. Data on numbers of such children were not available for five states in 1991-92: Kentucky, Ohio, Oklahoma, Pennsylvania, and Virginia. In 1989-90, data were not available for Alaska, Kansas, Vermont, and Washington, in addition to Kentucky, Ohio, Oklahoma, and Pennsylvania. In 1993-94, data will be available for all but two states: Kentucky and Ohio.

[44]These papers, published in a special issue of the Journal of Education Finance, Vol. 18, No. 1 (Summer 1992), were written by the following experts on equity measures in school finance: Robert Berne and Leanna Stiefel, K. Forbis Jordan, Allan Odden, and Richard Salmon. Joel Sherman provided a summary article as editor for the special issue.

districts that spend less than the median.[45] This index is the ratio of the sum of expenditures for districts below the median to what the expenditures in these districts would be if they were able to spend at the median level per pupil. Where per pupil expenditures are equal for all the districts in the state that are at or below the median, the McLoone Index is 1.0.

The Comprehensiveness of Measures of Differences in Student Needs

Experts suggested that taking into account student needs would improve current measures of equity. For example, if one district in a state has many pupils that are poor, have limited English proficiency, or otherwise need special educational services, it may be appropriate for the state to provide more aid for that district than for districts without high proportions of these at-risk pupils. Therefore, it may be necessary to make adjustments to consider that one district has greater student needs by weighting its students according to their need for additional services. If, for example, the cost of educating a student with limited English proficiency is, on average, 20 percent more than the cost of educating a student without additional needs, these students would then be weighted 1.2. If the district were able to spend at the level needed to cover these additional services, its expenditures per weighted pupil would show that it was spending at a level comparable with districts with fewer students with additional needs.

We chose to use a set of weights developed for the NCES report, Disparities in Public School District Spending: 1989-90, that takes into account differences in student needs across school districts.[46] The researchers assigned students with disabilities a weight of 2.3 because the cost of educating such children is generally 2.3 times the cost of educating children who do not need special educational services, although the cost of educating children with specific types of disabilities varies widely.[47] The report used weights of 1.2 for children from poor families or those who have limited English proficiency. This additional 0.2 weighting for students in poverty stems from an estimate based on the average title I allocation per student divided by average revenues per student. The rationale for using a weight of 1.2 for children with limited English proficiency is based on an expectation that they will need additional educational services,

[45]It is also possible to construct a modified McLoone Index that examines all districts with spending below, for example, the 75th or 80th percentiles rather than below the 50th percentile, or median.

[46]Parrish, Matsumoto, and Fowler, Disparities in Public School District Spending: 1989-90.

[47]This cost estimate is based on analysis of data from a nationally representative sample. For more information, see M.T. Moore, E.W. Strang, M. Schwartz, and M. Braddock, Patterns in Special Education Service Delivery and Cost, Contract No. 3000-84-0257 (Washington, D.C.: Decision Resources Corp., 1988). More recent studies have resulted in a similar figure.

comparable with those for poor children, although school districts may generally spend less than this currently.

We also consulted with the Congressional Research Service on the issue of whether to use 1.2 or 1.4 as a weight for the number of poor children and those with limited English proficiency. While the current equity measure uses the higher weight of 1.4 to adjust for the greater needs of poor children, it does not adjust for the greater needs of other students needing additional services, such as students with disabilities or limited English proficiency. But because we were taking into account the additional costs associated with educating these students and because there may be some double counting, that is, students may be weighted twice if they are both poor and have limited English proficiency (or have disabilities and limited English proficiency), we decided the weight of 1.2 was more appropriate in this case.[48] More precise estimates are not available on the cost of educating students who may have multiple types of special needs; moreover, data currently available do not allow us to estimate numbers of such children by school district.

Adjusting for Differences in Purchasing Power

We believe that adjusting for differences in purchasing power across a state's districts is useful in providing more comparable measures of spending levels, or spending disparities, across districts. For example, district A may be able to hire teachers of the same quality at 80 percent of the cost of district B because district A may be in a part of the state that offers lower housing costs, greater availability of desirable services, or better weather. If each district spends $4,000 per pupil, district B will not be able to provide the same level of services to its students as district A. Therefore, to provide greater comparability, we adjusted the spending levels of the various districts to take into account differences in purchasing power reflected in the cost of hiring and retaining teachers.

We used a teacher cost index recently developed for the National Center for Education Statistics.[49] While an index that examines differences in the

[48]We note, however, that the pros and cons of using specific weights are debated by some experts and program officials. For example, some experts would argue that a higher weight of 1.4 would be appropriate for both poor students and those with limited English proficiency. (See, for example, Deborah Verstegen and Kent McGuire, "The Dialectic of Reform," Educational Policy, Vol. 5, No. 4, pp. 386-411.) One program official suggested that it may be more appropriate to use a lower weight for students with limited English proficiency than for poor students, in part because of the double counting.

[49]See Jay Chambers and William Fowler, Public School Teacher Cost Differences Across the United States, Analysis/Methodology Report No. 95-758 (Washington, D.C.: National Center for Education Statistics, Oct. 1995).

cost of living is also available by district, we believe that the NCES teacher cost index is better suited to our purpose of providing comparability across districts because it considers the purchasing power of districts in determining personnel-related costs, a major cost to school districts. Our focus is on the district's ability to provide comparable educational services to its students, rather than on whether teachers' salaries are adequate given the cost of living in their area.

Not all costs, however, vary within the state. For example, the costs of books, instructional materials, and other supplies and equipment tend to vary little within a state or, for some items, the nation. Therefore, we used the teacher cost index to adjust only the portion of expenditures generally estimated to be related to personnel costs.[50] We used an estimate developed by Stephen Barro for NCES; he calculated that 84.8 percent of total current expenditures are personnel costs, including salaries, fringe benefits, and some purchased services.[51]

Inclusion of a Bonus for Improving Equity Over Time

In two of the five alternative measures of equity we developed, options D and F, states are rewarded solely on the basis of their current level of equity, as is the case under current law. Another way to compare states is to include a measure of whether and to what extent states have improved their level of equity in recent years. Our three other alternative measures of equity, options E, G, and H, take into account rate of change in the level of equity from school year 1989-90 to school year 1991-92, the most recent comprehensive data available on school district level finances.

Our first alternative, option D, uses a COV, as the current title I equity measure does. In addition, option D takes into account the needs of students with limited English proficiency or disabilities as well as those who are poor. We used weights of 1.2 for poor students and those with limited English proficiency, and 2.3 for students with disabilities, rather than the weighting of 1.4 for only poor students as in the current measure of equity. We also used a teacher cost index to adjust for purchasing power differences across school districts. Like the current measure, we subtracted this adjusted COV from 1.3 so that the two measures are

[50]Data on district level teacher costs were not available in Oregon for school districts comprising about 27 percent of students enrolled in the state; cost data were also not available for districts enrolling about 15 percent of students in Alaska, about 8 percent of students in New York, and about 6 percent in Maryland and New Jersey. Since our analysis was completed, we have been informed by NCES that data correcting these problems are now, or will soon be, available.

[51]Stephen M. Barro, Cost-of-Education Differentials Across the States, Working Paper No. 94-05, (Washington, D.C.: National Center for Education Statistics, July 1994).

comparable. We limited this measure, along with three of the other four we developed, so that no state's measure is less than 0.95 or more than 1.3. (The current equity factor presently ranges from 0.99 to 1.3; see table IV.1.) This limitation affected few states and resulted in relatively minor changes.

Option E is a variation of option D that takes into account a state's improvement in equity over time, from school year 1989-90 to school year 1991-92. First we calculated a factor similar to option D, using 1989-90 data, and determined the rate of change from 1989-90 to 1991-92. We then multiplied option D by 1 plus the rate of change. Thus, for example, if the state's equity factor improved by 3 percent over that time, option E would yield a 3-percent increase in the factor over option D. If a state's level of equity decreased by 3 percent, option E would be 3 percent lower than option D. For example, if a state currently had an equity factor of 1.10 under option D and it improved by 3 percent, option E would be equal to 1.10 multiplied by 1.03, or 1.13. If, instead, it decreased by 3 percent over this time, option E would be equal to 1.10 multiplied by 0.97, or 1.07.

We also developed two options, F and G, based on the McLoone Index, which measures the extent to which the state brings up the expenditures of those districts spending below the median. Option F is based on the McLoone Index and includes the same adjustments for differences in student needs and purchasing power across a state's school districts. Under the current law, states that are fully equalized receive a score of 1.30; states that are fully equalized using the McLoone Index receive a score of 1.00. To ensure that the equity factors we developed were comparable with the current equity factor, option F is equal to the adjusted McLoone Index plus 0.30. (The 0.30 is determined by subtracting 1.00 from 1.30.) In this way, states that are fully equalized would receive a score of 1.30, just as they currently do under the existing equity factor.

We also developed an equity factor based on the McLoone Index that takes into account the rate of change in equity over time, which we refer to as option G. We used the option F method to calculate indexes using data for school years 1989-90 and 1991-92. Again, states that increase their level of equity over time receive an increase in their equity factor under option G, while those whose level of equity declines receive a lower score under option G than option F.

As noted earlier, options D through G include limits such that the equity factor cannot drop below 0.95 or rise above 1.30; the use of these limits

affected few states. We also developed option H, which is identical to option E except that it uses no limits. As shown in table IV.1, the equity factors for options E and H are identical except for four states: California, Louisiana, New York, and Rhode Island.

Table IV.1: Current and Alternative Title I Equity Factors

State	Current equity factor[a]	Alternative equity factors				
		Option D	Option E	Option F	Option G	Option H
Alabama	1.17	1.19	1.18	1.21	1.20	1.18
Alaska	1.20[b]	0.99	1.03	1.02	0.95	1.03
Arizona	1.20	1.04	1.08	1.12	1.17	1.08
Arkansas	1.17	1.13	1.12	1.19	1.18	1.12
California	1.18	0.95	0.95	1.07	1.04	0.83
Colorado	1.18	1.12	1.11	1.18	1.18	1.11
Connecticut	1.16	1.02	1.01	1.05	1.06	1.01
Delaware	1.23	1.22	1.25	1.24	1.26	1.25
District of Columbia[c]	1.30	1.30	1.30	1.30	1.30	1.30
Florida	1.22	1.09	1.10	1.12	1.12	1.10
Georgia	1.14	1.16	1.15	1.19	1.19	1.15
Hawaii[c]	1.30	1.30	1.30	1.30	1.30	1.30
Idaho	1.17	1.07	1.07	1.16	1.13	1.07
Illinois	1.11	1.00	1.00	1.24	1.23	1.00
Indiana	1.18	1.15	1.16	1.19	1.19	1.16
Iowa	1.22	1.15	1.15	1.22	1.23	1.15
Kansas	1.20[b]	1.05	1.06	1.21	1.24	1.06
Kentucky	1.19	1.18	1.20	1.18	1.16	1.20
Louisiana	1.18	1.04	0.95	1.21	1.20	0.92
Maine	1.19	1.14	1.14	1.19	1.19	1.14
Maryland	1.14	1.20	1.22	1.19	1.19	1.22
Massachusetts	1.07	0.97	0.97	1.08	1.08	0.97
Michigan	1.09	1.14	1.16	1.21	1.20	1.16
Minnesota	1.17	1.12	1.13	1.21	1.27	1.13
Mississippi	1.18	1.17	1.17	1.22	1.21	1.17
Missouri	0.99	1.02	0.98	1.18	1.19	0.98
Montana	1.14	1.10	1.10	1.21	1.22	1.10
Nebraska	1.17	1.09	1.10	1.14	1.11	1.10
Nevada	1.21	1.16	1.18	1.30	1.30	1.18
New Hampshire	1.14	1.10	1.10	1.16	1.17	1.10
New Jersey	1.14	0.97	0.99	1.02	1.03	0.99

(continued)

State	Current equity factor[a]	Alternative equity factors				
		Option D	Option E	Option F	Option G	Option H
New Mexico	1.20[b]	1.01	1.01	1.06	1.02	1.01
New York	1.05	1.05	1.16	1.18	1.06	1.26
North Carolina	1.21	1.20	1.21	1.23	1.25	1.21
North Dakota	1.17	1.11	1.12	1.21	1.22	1.12
Ohio	1.07	1.09	1.08	1.16	1.14	1.08
Oklahoma	1.20	1.11	1.12	1.21	1.19	1.12
Oregon	1.16	1.09	1.09	1.15	1.15	1.09
Pennsylvania	1.10	1.09	1.10	1.16	1.15	1.10
Puerto Rico[c]	1.30	1.30	1.30	1.30	1.30	1.30
Rhode Island	1.19	0.95	0.95	0.95	0.95	0.92
South Carolina	1.19	1.19	1.19	1.23	1.22	1.19
South Dakota	1.16	1.12	1.16	1.23	1.25	1.16
Tennessee	1.15	1.16	1.16	1.19	1.20	1.16
Texas	1.18	0.95	0.95	1.06	1.09	0.95
Utah	1.19	1.19	1.19	1.24	1.21	1.19
Vermont	1.12	1.10	1.10	1.18	1.21	1.10
Virginia	1.08	1.17	1.16	1.25	1.27	1.16
Washington	1.22	1.08	1.09	1.15	1.14	1.09
West Virginia	1.24	1.23	1.24	1.26	1.29	1.24
Wisconsin	1.18	1.13	1.13	1.18	1.17	1.13
Wyoming	1.15	1.12	1.12	1.25	1.28	1.12

[a]Liane White, Education Finance Incentive Grant Under ESEA Title I, Report for Congress No. 95-963 EPW (Washington, D.C.: Congressional Research Service, Sept. 12, 1995).

[b]The current law provides that those states that qualify as equitable under the Impact Aid program will receive a minimum equity factor of 1.20. Without this 1.20 minimum, the equity factors would be 0.95 for Alaska, 1.16 for Kansas, and 1.16 for New Mexico.

[c]The current equity factor for the District of Columbia, Hawaii, and Puerto Rico is 1.30 because they each have only one school district and, therefore, no spending disparities across school districts. For the same reason, these states receive a score of 1.30 under the alternatives we developed.

Correlations Between Equity and Demographic Characteristics

We examined the correlations between equity and states' demographic characteristics, such as state median income, within-state deviations in median household income, state percentage of school-age children in poverty, and within-state deviations in percentage of school-age children in poverty. We examined the extent to which title I's current equity factor

and the alternative equity factors we developed were related to these demographic factors.[52]

When we examined the correlation between the various equity factors and variability in median household income across a state's districts, we found that the variable "within state deviations in median household income" was negatively correlated with each equity factor.[53] That is, the lower the variability in median household income across districts in the state, the higher the equity factor, and vice versa. The association was strongest, however, for the current equity factor and weakest for the three alternatives that consider improvement in equity over time—options E, G, and H (see table IV.2).

Table IV.2: Correlations Between the Equity Factors and State Demographic Characteristics

Characteristic	Current measure	Option D	Option E	Option F	Option G	Option H
State median household income	-0.11	-0.03	-0.04	-0.09	-0.01	-0.05
Within-state deviations in median household income	-0.57[a]	-0.50[a]	-0.43[a]	-0.48[a]	-0.45[a]	-0.36[a]
Percentage of school-age children in poverty	0.13	0.07	-0.01	0.13	0.08	-0.02
Within-state deviations in percentage of school-age children in poverty	-0.37[a]	-0.44[a]	-0.40[a]	-0.42[a]	-0.37[a]	-0.35[a]

[a]Significant at the 0.05 level.

Each of the equity factors we developed, however, as well as the current one, was negatively correlated with the variable "within-state deviations in percentage of school-age children in poverty." We found no correlation between a state's percentage of school-age children in poverty and the five alternative equity factors we developed; similarly, there was no correlation for the current equity factor. In addition, there was no significant correlation between a state's median household income and the current or alternative equity factors.

[52]We did not include the District of Columbia, Hawaii, or Puerto Rico in any of the correlations, as they each comprise only one school district.

[53]Two variables, state median household income and within-state deviations in median household income, were adjusted for differences in purchasing power.

Appendix V

Illustrative Alternative Allocations Using New Measures

To show how improved measures might be used, this appendix provides illustrative allocations using the current formula for the Education Finance Incentive Program along with alternative formulas we developed; we also provide a state-by-state estimate of allocations under the targeted grant formula for comparison purposes. While NCES data are sufficient for the purposes of illustrating the general effects of changes in the effort and equity factors, NCES may want to address a number of cases of missing data or irregularities in the school district databases.

As noted earlier, if funds were appropriated for the Education Finance Incentive Program, each state's grant would be determined by the formula in figure V.1.

Figure V.1: Formula for Determining State Share

State Share = Total School-Age Population x Effort Factor x Equity Factor

We noted earlier that two of the effort factor options we developed, options B and C, have several benefits compared with the current effort factor. For example, options B and C (1) are more comprehensive, (2) are not biased against states with high proportions of school-age children, and (3) include an incentive for states that improve their level of effort over time. Equity options E, G, and H also have several benefits compared with the current equity factor: (1) they consider the additional education costs related to numbers of students with limited English proficiency or disabilities, in addition to poor students; (2) they consider differences in purchasing power across districts; and (3) they include a bonus for states that become more equitable over time. Preferences for options E or H versus option G depend on interest in measuring variation in spending levels for all school districts in the state (options E or H) or focusing on a state's ability to bring low-spending school districts up to the median (option G).

Figure V.2 shows the three illustrative alternative formulas based, in part, on the alternative effort and equity factors we developed.

Figure V.2: Examples of Alternative Formulas

Alternative 1	=	Total School-Age Population x Effort Option B x Equity Option E
Alternative 2	=	Total School-Age Population x Effort Option B x Equity Option G
Alternative 3	=	Poor School-Age Population x Effort Option B x Equity Option E
Alternative 4	=	Poor School-Age Population x Effort Option C x Equity Option H

Table V.I: Illustrative State Allocations Under Current and Alternative Title I Formulas—Education Finance Incentive Program and Targeted Grants

Dollars in Thousands

State	Current formula	Alternative 1	Alternative 2	Alternative 3[a]	Alternative 4[a]	Targeted grants[b]
Alabama	3,099	3,275	3,135	4,525	4,306	3,498
Alaska	612	529	500	500	500	458
Arizona	3,225	3,344	3,437	3,492	3,439	3,210
Arkansas	1,850	1,993	1,986	2,741	2,753	2,146
California	23,378	19,839	20,539	19,728	17,177	26,812
Colorado	2,808	2,860	2,869	2,104	2,135	1,706
Connecticut	2,428	2,055	2,022	1,182	1,199	1,404
Delaware	573	554	527	500	500	476
District of Columbia	500	500	500	545	500	552
Florida	10,034	9,030	8,668	8,311	8,260	8,044
Georgia	5,174	5,937	5,781	6,219	6,184	4,414
Hawaii	922	981	925	609	579	500
Idaho	996	985	982	766	777	500
Illinois	8,261	7,726	8,982	7,627	7,579	10,766
Indiana	4,565	4,897	4,734	3,806	3,968	2,410
Iowa	2,309	2,450	2,480	1,858	1,901	1,012
Kansas	2,082	2,090	2,301	1,597	1,588	1,092

(continued)

Dollars in Thousands

State	Current formula	Alternative 1	Alternative 2	Alternative 3[a]	Alternative 4[a]	Targeted grants[b]
Kentucky	2,953	3,143	2,850	4,328	4,391	3,594
Louisiana	3,715	3,047	3,637	5,500	5,269	6,242
Maine	1,014	1,029	1,011	759	849	500
Maryland	3,787	3,928	3,607	2,321	2,355	2,350
Massachusetts	4,027	3,464	3,643	2,485	2,469	3,306
Michigan	7,426	8,341	8,128	8,325	9,237	8,964
Minnesota	3,824	4,045	4,264	2,671	2,631	1,914
Mississippi	2,205	2,286	2,243	4,413	4,292	4,268
Missouri	3,377	3,505	4,022	3,286	3,300	3,168
Montana	763	742	772	746	817	580
Nebraska	1,289	1,419	1,344	1,044	1,039	664
Nevada	1,069	1,099	1,144	597	562	500
New Hampshire	819	878	877	500	500	492
New Jersey	5,771	5,222	5,133	3,224	3,394	3,648
New Mexico	1,457	1,395	1,332	1,976	1,965	1,812
New York	12,276	14,243	12,268	16,092	17,645	21,120
North Carolina	5,097	5,388	5,232	4,794	4,561	2,994
North Dakota	512	513	530	500	500	500
Ohio	8,296	8,817	8,772	8,513	8,876	7,896
Oklahoma	2,607	2,850	2,847	3,189	3,142	2,186
Oregon	2,503	2,465	2,447	1,833	1,946	1,444
Pennsylvania	8,658	9,025	8,928	7,816	7,775	8,306
Puerto Rico	3,757	3,959	3,732	8,000	8,000	6,928
Rhode Island	752	633	597	500	500	534
South Carolina	2,830	3,066	2,968	3,609	3,589	2,386
South Dakota	608	653	663	702	705	518
Tennessee	3,618	4,026	3,907	4,567	3,984	3,140
Texas	14,941	13,372	14,505	17,091	17,194	19,694
Utah	1,985	2,296	2,204	1,393	1,439	810
Vermont	500	500	500	500	500	460
Virginia	4,167	4,705	4,832	3,339	3,388	2,320
Washington	4,184	4,379	4,302	3,032	3,016	2,412
West Virginia	1,491	1,573	1,539	2,341	2,709	1,810
Wisconsin	4,406	4,449	4,354	3,404	3,614	3,054
Wyoming	500	500	500	500	500	482

(Table notes on next page)

[a]For alternatives 3 and 4, Puerto Rico's allocation has been set to a maximum of $8 million.

[b]These estimates of allocations for targeted grants are based on estimates in Riddle, Education for the Disadvantaged, pp. 19-22. While we adjusted the estimates to account for allocating $200 million rather than $100 million, we have not updated these estimates, for example, to take into account state per pupil spending data that have become available in the past year. However, we do not anticipate major shifts in allocations from one year to the next.

Implications for Impact Aid

In addition to an overview of the Impact Aid program and the way that equalization is defined for this program, this appendix discusses some of the strengths and weaknesses of that definition.

Overview of the Impact Aid Program

The Impact Aid program is intended to compensate school districts for either a loss of tax revenues, because federal property is tax exempt, or increased expenditures because of federal activity, for example, the cost of educating the children of military personnel. Under the Impact Aid program, if a state meets a certain equalization level, it may reduce state aid payments to offset the Impact Aid received by school districts.[54] In this way, these states can ensure that Impact Aid funds will not contribute to creating greater inequalities within the state. If the state does not pass Impact Aid's test of equalization, it may not consider federal Impact Aid payments to its localities in determining state aid (which would be likely to result in decreasing state aid to those districts) because the Impact Aid payments are meant for localities, not states.

Ways to Determine Equalization

Prior to the reauthorization of the Impact Aid program in 1994, the Department of Education asked education finance experts to examine the way that equalization is determined in the program.[55] These experts suggested, among other things, two improvements: (1) use measures of spending disparities that are more comprehensive than the Federal Range Ratio, and (2) consider differences in purchasing power and student needs more systematically. Both issues are still relevant.

The measure currently used to determine the level of equalization in per pupil spending in the Impact Aid program, the Federal Range Ratio, is the difference in per pupil expenditures between two districts—a high-spending district (95th percentile) and a low-spending district (5th percentile)—divided by the per pupil expenditure of the low-spending district. One major drawback of this measure is that it does not consider spending in a majority of each state's school districts; it only considers spending in two of the state's school districts (at the 95th and 5th percentiles). Consequently, two states with fairly different spending patterns may have similar Federal Range Ratio scores. For example, one

[54]However, states that qualify as equalized can only consider the Impact Aid as local revenues "in proportion to the share that local revenues covered under a state equalization program are of total local revenues."

[55]These experts included Robert Berne and Leanna Stiefel, K. Forbis Jordan, Allan Odden, and Richard Salmon.

state may have per pupil spending clustered around the average spending level with little variation between the two extremes of the 95th and 5th percentiles, while another state may have per pupil spending that varies greatly between these two points.

Also, the Impact Aid program's system for determining a state's level of equalization does not consider the additional funds states may provide to high-need areas. For example, some states provide additional funds to take into account the greater needs of some types of students (such as those who are poor or have limited English proficiency or disabilities) or some types of districts (such as those in sparsely populated areas). On the one hand, not including such funds is a strength of the way that equalization is measured because states that contribute additional funds to high-need areas are not penalized for these greater spending disparities. On the other hand, the overall method of determining equalization is weakened by not considering such funds (and making related adjustments) because it may not adequately take into account the circumstances of districts in high-need areas.

A number of implications arise from an analysis of the current method for determining equalization under the Impact Aid program. First, the measure of spending disparities may be misleading. Second, the way in which states treat districts in high-need areas is not fully addressed. Third, few states qualify as equalized under this measure. Fourth, to the extent that Impact Aid may allow some districts to be compensated twice for the "impact" of a federal presence—once by the federal government and once by the state government—it may actually contribute to creating less, rather than more, equalization in the state.[56]

[56]See James Fox, "The Equity and Efficiency of Intergovernmental Grants: The Case of State Equalization Plans and Impact Aid," paper prepared for the Annual Conference of the American Education Finance Association (Salt Lake City, Utah: Mar. 20-23, 1996), p. 2.

Comments From the Department of Education

UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF THE UNDER SECRETARY

THE UNDER SECRETARY

Ms. Carlotta C. Joyner
Director, Education and Employment Issues
U.S. General Accounting Office
Washington, DC 20548

JUL 12 1996

Dear Ms. Joyner:

Thank you for providing the Department of Education the opportunity to comment on your draft report entitled School Finance: New Measures of Equity and Effort Could Improve Targeting of Federal Funds (GAO/HEHS-96-142).

We believe the report gives insufficient attention to the impact of the Education Finance Incentive Program on the targeting of Title I funds. The GAO's conclusion that revising the equity and effort factors could improve targeting misses the larger issue that the Incentive formula, even with the refinements proposed by GAO, would tend to redistribute Title I funds away from many higher-poverty states and school districts, undermining the program's primary objective of helping disadvantaged students meet high standards of achievement. The devastating impact of the Incentive formula on targeting is due to a combination of factors, including 1) states with low fiscal effort tend to be high-poverty states with fewer resources, 2) the equity factor draws funds away from some high-poverty states while benefitting some low-poverty states, and 3) the Incentive formula allocates funds based on the total number of school-age children rather than numbers of poor children, as in the other Title I formulas. These features substantially weaken the targeting of the Incentive formula on the states and school districts where the needs are greatest.

The report also sidesteps the central issue of whether the Incentive formula can be expected to provide a meaningful incentive for states to change their school funding systems. Title I represents only 2 percent of total funding for public schools. Even if the Incentive formula were used to allocate as much as 20 percent of Title I funds, the effort and equity factors would then influence only four-tenths of one percent of all education funds -- hardly a strong incentive for states to undertake the difficult tasks of raising additional funds for education or redistributing funds among school districts.

The effort factor provides a particularly weak incentive given the provisions constraining a state's effort factor to within 95 percent and 105 percent of the national average; because over half of the states fall above or below these constraints, their level of effort could change substantially and yet they could still be assigned an effort factor of either 95 percent or 105 percent. Again, this is another factor that calls into question the ability of the Incentive formula to affect states' education finance decisions.

My staff and I are available to respond to any questions you may have.

Sincerely,

Marshall S. Smith

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Appendix VIII

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